

Message

From: Risen, Amy J [Amy.Risen@ncdenr.gov]
Sent: 8/30/2018 5:28:57 PM
To: Strynar, Mark [Strynar.Mark@epa.gov]
CC: McCord, James [mccord.james@epa.gov]
Subject: RE: [External] RE: PFAS compounds list
Attachments: ATT00001.txt; image002.emz

Hi Mark,

Naming certainly is a challenge!

So, we are finding high concentrations of some of the compounds you mentioned. PFECA-F is the name Chemours is using for PFMOPrA and this compound is showing up at up to 3,000 ng/L in one of the private wells near the facility. PFECA-A refers here to PFMOBA, which is also in wells up to ~1,000 ng/L in some cases.

Would James be a good person to follow up with for additional questions about naming consistency and which chemicals EPA has detected in association with the site?

Thanks and best regards,
Amy



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From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]
Sent: Thursday, August 30, 2018 8:48 AM
To: Risen, Amy J <Amy.Risen@ncdenr.gov>
Cc: McCord, James <mccord.james@epa.gov>
Subject: [External] RE: PFAS compounds list

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Amy,

It's hard for me to go through all of these to confirm they are correct right now. However what you have for PEPA is NOT correct. Here is the correct structure and CAS. It seems another chemical in the dashboard also goes by the name PEPA and has the CAS you show below.

<https://comptox.epa.gov/dashboard/dsstoxdb/results?search=DTXSID60896486>

The second one I see is for the chemical you have called TAFN4. We call this PFO5DoDA as I recall. The IUPAC name and CAS are correct. I have no idea about the shorthand name. The line just above it is correct???

<https://comptox.epa.gov/dashboard/dsstoxdb/results?search=DTXSID50723994>

I don't think the ones called PFECA-F, PFECA-A or PFECA-G need to be here. They were used as surrogate chemicals before we could get standards. I think they should be removed unless there is a good reason to keep them.

Everything else seems reasonable but I have not checked all of them.

Mark

From: Risen, Amy J [<mailto:Amy.Risen@ncdenr.gov>]

Sent: Wednesday, August 29, 2018 4:53 PM

To: Strynar, Mark <Strynar.Mark@epa.gov>

Subject: PFAS compounds list

Hi Mark,

I hope all is well with you.

Could you take a look at the list of PFAS chemicals below and let me know if there are any that we are missing? I'm looking for chemicals that have been detected in association with the Chemours facility in air/soil/water. I realize that our list has some chemicals that are not detected at meaningful levels, but are just part of our list of analytes for our lab. At this point we are looking for any additional analytes that have been detected for Chemours, and for which we are not currently considering for analysis.

Thanks!

Amy

| Chemours PFAS Shorthand | DEQ PFAS Shorthand | Chemical Name | CASN | Chemical Formula | Carbon- chain length |
|-------------------------------|-----------------------|--------------------------------------------------------------------------|-------------|---------------------|----------------------------|
| HFPO-DA | PFPrOPrA, "GenX" | 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid) | 13252-13-6 | C6HF11O3 | 6 |
| PFMOAA | | Perfluoro- 2-methoxyacetic acid | 674-13-5 | C3HF5O3 | 3 |
| PMPA | | Perfluoro-2-methoxypropanoic acid | 13140-29-9 | C4HF7O3 | 4 |
| PFO2HXA | | Perfluoro(3,5-dioxahexanoic) acid | 39492-88-1 | C4HF7O4 | 4 |
| PFECA-F | PFMOPrA | Perfluoro-3-methoxypropanoic acid | 377-73-1 | C4HF7O3 | 4 |
| PFECA-A | PFMOBA | Perfluoro-4-methoxybutanoic acid | 863090-89-5 | C5HF9O3 | 5 |
| PFO3OA | | Perfluoro(3,5,7-trioxaoctanoic) acid | 39492-89-2 | C5HF9O5 | 5 |

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|-----------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------|----|
| PFO4DA | | Perfluoro(3,5,7,9-tetraoxadecanoic) acid | 39492-90-5 | C6HF11O6 | 6 |
| PFESA-BP1 | Nafion BP #1 | Nafion Byproduct 1 | 66796-30-3; 29311-67-9 | C7HF13O5S | 7 |
| PFESA-BP2 | Nafion BP #2 | Nafion Byproduct 2 | 749836-20-2 | C7H2F14O5S | 7 |
| PFECA-G | | Hexanoic acid, 2,2,3,3,4,4,5,5,6-decafluoro-6-(trifluoromethoxy)-; Butanoic acid, 2,2,3,3,4,4-hexafluoro-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethoxy]- | 174767-10-3; 801212-59-9 | C7HF13O3 | 7 |
| PFO5DA | | Perfluoro(3,5,7,9,11-pentadodecanoic) acid | 39492-91-6 | C7HF13O7 | 7 |
| TAFN4 | | 2,2,4,4,6,6,8,8,10,10,12,12,12-tridecafluoro-3,5,7,9,11-pentaoxadodecanoic acid | 39492-91-6 | C7HF13O7 | 7 |
| PEPA | | Acetamide, 2-[2,6-difluoro-4-[[2-[(phenylsulfonyl)amino]ethyl]thio]phenoxy]- | 141286-78-4 | C16H16F2N2O4S2 | 16 |
| 4:2 FTS | | 4:2-fluorotelemersulfonate | 757124-72-4 | C6H5F9O3S | 6 |
| 6:2 FTS | | 6:2-fluorotelemersulfonate | 27619-97-2 | C8H5F13O3S | 8 |
| 8:2 FTS | | 8:2-fluorotelemersulfonate | 39108-34-4 | C10H5F17O3S | 10 |
| 10:2 FTS | | 10:2-fluorotelemersulfonate | 120226-60-0 | C12H5F21O3S | 12 |
| PFOSA | | Perfluorooctanesulfonamide | 754-91-6 | C8H2F17NO2S | 8 |
| NMePFOSA | | N-methyl-perfluoro- octane-1-sulfonamide | 31506-32-8 | C9H4F17NO2S | 9 |
| NEtPFOSA | | N-ethylperfluoro- octane-1-sulfonamide | 4151-50-2 | C10H6F17NO2S | 10 |
| NMeFOSAA | | N-methyl perfluoro- octane-sulfon- amidoacetic acid | 2355-31-9 | C11H6F17NO4S | 11 |
| NMePFOSAE | | N-methylperfluoro- octane-sulfon- amidoethanol | 24448-09-7 | C11H8F17MO3S | 11 |
| NEtFOSAA | | N-ethyl perfluoro- octane-sulfon- amidoacetic acid | 2991-50-6 | C12H8F17NO4S | 12 |
| NEtPFOSAE | | N-ethyl-N-perfluoro- octylsulfonylaminoethanol | 1691-99-2 | C12H10F17NO3S | 12 |
| PFBS | | Perfluorobutanesulfonic acid | 375-73-5 | C4HF9O3S | 4 |
| PFBA | | Perfluorobutanoic acid | 375-22-4 | C4HF7O2 | 4 |
| PFPeS | | Perfluoropentanesulfonic acid | 2706-91-4 | C5HF11O3S | 5 |
| PFPeA | | Perfluoropentanoic acid | 2706-90-3 | C5HF9O2 | 5 |
| PFHxS | | Perfluorohexanesulfonic acid | 355-46-4 | C6HF13O3S | 6 |
| PFHxA | | Perfluorohexanoic acid | 307-24-4 | C6HF11O2 | 6 |
| PFHpS | | Perfluoroheptanesulfonic acid | 375-92-8 | C7HF15O3S | 7 |

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|--------|--------------------------------|------------|------------|----|
| PFHpA | Perfluoroheptanoic acid | 375-85-9 | C7HF13O2 | 7 |
| PFOS | Perfluorooctanesulfonic acid | 1763-23-1 | C8HF17O3S | 8 |
| PFOA | Perfluorooctanoic acid | 335-67-1 | C8HF15O2 | 8 |
| PFNS | Perfluorononanesulfonic acid | 68259-12-1 | C9HF19O3S | 9 |
| PFNA | Perfluorononanoic acid | 375-95-1 | C9HF17O2 | 9 |
| PFDS | Perfluorodecanesulfonic acid | 335-77-3 | C10HF21O3S | 10 |
| PFDA | Perfluorodecanoic acid | 335-76-2 | C10HF19O2 | 10 |
| PFUdA | Perfluoroundecanoic acid | 2058-94-8 | C11HF21O2 | 11 |
| PFDoS | Perfluorododecanesulfonic acid | 79780-39-5 | C12HF25O3S | 12 |
| PFDoA | Perfluorododecanoic acid | 307-55-1 | C12HF23O2 | 12 |
| PFTeDA | Perfluorotetradecanoic acid | 376-06-7 | C14HF27O2 | 14 |
| PFTrDA | Perfluorotridecanoic acid | 72629-94-8 | C13HF25O2 | 13 |
| PFHxDA | Perfluorohexadecanoic acid | 67905-19-5 | C16HF31O2 | 16 |
| PFODA | Perfluorooctadecanoic acid | 16517-11-6 | C18HF35O2 | 18 |



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